

The Influence of Nervous and Muscular Work, and of Fatigue upon the Tendon Reflexes and Electro-Excitability of the Muscles in Man.

DR. J. ORSCHANSKY, after a long series of experiments, relative to the influence of nervous and muscular work, and fatigue upon the tendon reflexes, and electro-excitability of the muscles, arrives at the following conclusion:—

1. Galvanic and Faradic contractility is augmented at the beginning of labor, but afterwards as the muscles become more and more fatigued it diminishes.

2. In the reaction of degeneration there is often observed a notable diminution of Faradic contractility, with normal conservation of galvanic contractility.

3. Muscular contraction becomes feebler the longer work is continued.

4. These phenomena are noticeable upon all muscles which have undergone either tonic or clonic contraction.

5. Like phenomena are observed in the nerves, but after a much longer time. They therefore are less easily fatigued than the muscles.

6. Muscular excitability returns more quickly when lost than does nervous. A constant current must be used to produce such effect.

7. The tendon reflexes are, in incipient fatigue, exaggerated, but gradually decrease as strength diminishes, and, finally, may altogether disappear. They, however, are more quickly restored than muscular contractility.

The author considers patellar reflex to be muscular, not nervous in its origin.

New Methods for Testing Urine.

In the last session of the Vienna Medical College, Dr. V. JAKSCH called attention to some new methods of examining the urine for various substances. In most cases there exists not only one, but two albuminous substances in the urine, namely, serumalbumin and globulin, and sometimes, also, oxy-hæmoglobin, fibrin, and pepton. Pure globulinuria was observed only in one instance by Kühn. To determine whether the urine contains serumalbumin, pepton, or propeptone, three reactions must be practised. 1. The urine is boiled, and nitric acid is added; if the resulting precipitate contain albumen, after the addition of the acid, it will not disappear, but remain flaky. 2. The next step is to add acetic acid in excess to the filtered urine, and afterwards add solution of potassium ferrocyanide. If albumen be present, excessive cloudiness results. 3. The third test consists of the addition of liquor potassa and sulphate of copper to the urine. The mixture by boiling, becomes of a violet color. If now the first test give negative, and the second positive results, the existence of propeptone is very probably assured. It is positively indicated by the presence of precipitate after the addition of sodium chloride and acetic acid. If the urine contain peptone, both first and second tests will fail, but the third will give positive results. If a small amount of peptone be present, and the urine free from mucin—which is accomplished by the addition of acetic acid—there will result a precipitate upon the addition of acetic acid and phospho-tungstic acid. Albuminuria is of much prognostic importance. In hypertrophy of the heart, without excitation or murmur, if the urine give a precipitate with acetic acid and potassium ferrocyanide, contraction of the kidneys may be diagnosticated along with degeneration of the arteries and consecutive red atrophy of the kidneys. The signification of propeptonuria in any disease is not recognized. Through the labors of Schmidt, Mühlhain, and Hofmaier it has been demonstrated that the white blood-corpuscles are peptone carriers. Peptonuria follows ulceration of the colon, ulcerous carcinoma of the stomach, the decay of pus-corpuscles in the body from white blood-corpuscles in the circulation; from scorbutus; in puerperal fever; deep-

seated suppuration; and, finally, in cerebro-spinal meningitis, a point of distinction from tuberculous meningitis. Dr. JAKSCH next mentions liquor potassum as a test for sugar, and the brown coloration which results upon boiling it with urine containing sugar; also, the Trommer's test, and remarks that because these tests are not sufficiently reliable, PENOZLDT's test should also be used. This consists in the addition of diazobenzene sulphonic and acetic acid to the suspected urine; if sugar be present an intensely red color with marked turbidity results. As an entirely reliable test, JAKSCH also recommends that of von FISCHER with phenylhydracin. Finally, REDNER discussed the methods for the detection of the acetons, which appear in the body during the existence of fevers, inanition, and carcinoma.—*Wien. Med. Wochenschr.*, December 6, 1884.

MATERIA MEDICA AND THERAPEUTICS.

Antipyrin.

HUCHARD, in a therapeutic study of "antipyrin," which appears in *L'Union Médicale*, Dec. 6, 1884, reaches the following conclusions:—

1. Antipyrin is a powerful and certain means of reducing the temperature in almost all febrile diseases (typhoid fever, phthisis pulmonalis, pneumonia, pleurisy, acute articular rheumatism, cerebral rheumatism, erysipelas, diphtheria, puerperal fever, scarlatina, abscess, phlegmon, etc.). It mitigates the symptoms which depend upon the elevation of temperature (acceleration of the pulse, and of respiration, dryness of the mouth), but does not appear to have any direct action upon the respiration and circulation.

2. Antipyrin is an antipyretic and not an antiperiodic, and is, therefore, inefficacious to prevent the recurrence of intermittent fevers.

3. Its administration gives rise sometimes to slight discomfort, such as light sweating, constriction of the pharynx, nausea and vomiting, and, in rare cases, to rubeolous, or scarlatinous exanthems. There is no tendency to collapse, or intoxication, as after the administration of preparations of quinia, or the salicylates.

4. Numerous observations show that antipyrin is the most powerful and up to this time the only known means of successfully reducing the temperature of tuberculosis. In a dose of 30 grains administered in the evening, at the appearance of the fever, the temperature decreases a half degree in half an hour, sometimes in a quarter of an hour, and then diminishes progressively to normal in an hour and a half or two hours. It is, however, sometimes necessary to prescribe, an hour or two later, a second dose of 15 or 20 grains. But in consumptives, antipyrin, by reason of the surety of its action, and with the aim to escape accidents produced by abnormally low temperature, should be administered in small but increasing doses (30 to 60 grains).

5. The apyretic effect is maintained ordinarily from six to nine hours, and is felt sometimes during several succeeding days, during which the temperature does not attain its former elevation. The secondary rise of temperature is progressive, following in this respect the progress of defervescence. It is not sudden, as that produced by kairin, and is never accompanied by a chill more or less prolonged.

6. Antipyrin is eliminated by the urine, where its presence is recognized in from two to four hours after its administration, during a period which varies